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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/761,503

01/20/2004

Kioan Cheon

Cheon "F"

4102

7590

12/27/2005

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EXAMINER

HOFFBERG, ROBERT JOSEPH

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/761,503	<b>Applicant(s)</b> CHEON, KIOAN	
	<b>Examiner</b> Robert J. Hoffberg	<b>Art Unit</b> 2835	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1/20/04.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10, 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Detailed Action***

***Specification***

1. The disclosure is objected to because of the following informalities: Page, 6, line 6, "ouch" should be "pouch" and "sooth" should be "smooth".

Appropriate correction is required.

***Drawings***

2. The drawings are objected to because Fig. 6, both of the details #10a should be teaching the bent lines. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

3. Claim 2 is objected to because of the following informalities: "the filler" lacks antecedent basis. Appropriate correction is required.
4. Claims 7, 8 and 10 are objected to because of the following informalities: "heat generating element" is singular whereas the antecedent basis in claim 1 of "heat-generating elements" is plural.
5. Claim 11 is objected to because of the following informalities: "heat generating element" is singular whereas the antecedent basis of "heat-generating elements" is plural.
6. Claims 10 and 11 are objected to because claim preamble "water cooling type jacket" includes additional elements that are in addition to the jacket including a casing and an oil supply cap. Suggestion is that your claim preamble should be "an electronic device".
7. Claim 11 is objected to because a water cooling type jacket is being used for air. Suggestion is use a more generic term such as "fluid".

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
9. Claims 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4: "or" should be omitted because it is lacking meaning in this usage.

Claim 5: "predetermined" and "versatile" are not defined in the disclosed in the application.

Claim 6: "A material having abrasion resistance, heat conductivity and thermal resistance" and "closely adheres" to the heat generating element" is not disclosed in the application. All materials have an abrasion resistance, heat conductivity and thermal resistance.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Mizzi (US 5,245,508).

With respect to Claim 1, Mizzi teaches a water cooling type cooling jacket for an electric device comprising: a pouch body (Fig. 1, #35) formed of a soft, loose elastic material (Col. 2, lines 58-59) that is deformable to closely contact heat-generating elements (Fig. 2, electrical components) having various shapes due to a contact pressure (Col. 4, lines 24-25) and accommodating (Col. 4, line 25) and a coolant; and a coolant inlet tube (Fig. 2, #50) and a coolant outlet tube (Fig. 2, #56) formed at one side (on left side of Fig. 2) of the pouch body to allow the coolant (Col. 2, line 41) to circulate inside the pouch body and connected to coolant circulation lines for circulating the coolant.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizzi (US 5,245,508) as applied to claim 1 above, in view of Danielson et al. (US 4,997,032), in further view of Larson et al. (US 5,560,423).

With respect to Claim 2, Mizzi further teaches putting the sheets (Col. 4, line 59, film) together and hermetically sealing (Col. 4, line 63) the sheets of the pouch body. Mizzi does not teach the vinyl sheets or the filler. Danielson et al. teaches the vinyl sheets (Col. 7, line 22). Larson et al. teaches the filler (Fig. 7, #14). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the water cooling type cooling jacket of Mizzi with that of Danielson et al., in further view of Larson et al. for the purpose of adding a wicking material sealed in a pouch made of transparent vinyl or any other color vinyl to assist the passage of coolant through the pouch.

14. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizzi (US 5,245,508) as applied to claim 1 above, in view of Spencer (US 3,542,032).

With respect to Claim 3, Mizzi teaches the water cooling type cooling jacket according to claim 1. Mizzi does not teach the bent lines. Spencer teaches wherein the pouch body has bent lines (Fig. 1, #40) so as to bent according to the shape of the

heat-generating element. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the water cooling type cooling jacket of Mizzi with that of Spencer to have thinner bent lines to allow the pouch body to be formed around and in contact with the heat-generating element.

15. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizzi (US 5,245,508), in view of Spencer (US 3,542,032) as applied to claim 3 above, in further view of Tousignant et al. (US 5,205,348).

With respect to Claim 4, Mizzi in view of Spencer teach the water cooling type cooling jacket according to claim 3. They do not teach that the coolant inlet and outlet pipes are at longest distance from each other. Tousignant et al teaches wherein the pouch body (Fig. 2, #10) has partitions (Fig. 2, #36) so as to form a passageway therein, or for uniform flow of the coolant, and an internal outlet of the coolant inlet pipe (Fig. 2, #18) and an internal inlet of the coolant outlet pipe (Fig. 2, #20) are disposed at opposite edges so as to have the longest distance therebetween. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the water cooling type cooling jacket of Mizzi in view of Spencer with that of Tousignant et al. to have the inlet and outlet pipes at opposite diagonal edges or any other locations that locate the pipes at the longest fluid path from each other.

16. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizzi (US 5,245,508) as applied to claim 1 above, in view of Layton et al. (US 5,323,294).

With respect to Claim 5, Mizzi teaches the water cooling type cooling jacket according to claim 1. Mizzi does not teach the porous filler sponge. Layton et al.

teaches a porous filler sponge (Fig. 3, #15a and Col. 3, line 55) which is soft and loose for smooth circulation of a coolant and has a predetermined elasticity in order to establish a circulation space for a coolant and to obtain a versatile contact elasticity. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the water cooling type cooling jacket of Mizzi with that of Layton et al. to have a filler to create a space within the pouch body for the fluid to pass through.

17. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizzi (US 5,245,508) as applied to claim 1 above, in view of Danielson et al. (US 4,997,032).

With respect to Claim 6, Mizzi teaches the water cooling type cooling jacket according to claim 1. Mizzi does not teach the material the pouch body contacts. Layton et al. teaches wherein one surface (Fig. 6, #44, lower surface) of the pouch body contacting the heat-generating element (Fig. 6, #41) closely adheres to a material (Fig. 5, #46) having abrasion resistance, heat conductivity and thermal resistance. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the water cooling type cooling jacket of Mizzi with that of Danielson et al. for the purpose of insuring the a material that can transfer heat from the heat-generating element to the pouch.

18. Claim 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizzi (US 5,245,508) as applied to claim 1 above, in view of Havranek et al. (US 4,733,720).

With respect to Claim 7, Mizzi teaches the water cooling type cooling jacket according to claim 1. Mizzi does not teach the adhering means. Havranek et al. teaches an adhering means (Fig. 1, #8) for pressing the heat-generating element for



fixing the pouch body to the heat-generating element. With respect to Claim 8, Havranek et al. further teaches wherein the adhering means is a clipping device for clipping the pouch body and the heat-generating element using an elastic spring (Fig. 1, #10). With respect to Claim 9, Havranek et al. further teaches wherein the adhering means comprises: a push rod (Fig. 1, #9) contacting the pouch body and installed so as to elevatably move (see Figs 1 and 2); and a switching lever (Fig. 1, #15) rotating about a rotation shaft (Fig. 1, #14) and fixed to a cam (Fig. 1, #12) slidably contacting the push rod so as to selectively elevate the push rod. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the water cooling type cooling jacket of Mizzi with that of Havranek et al. for the purpose of insuring contact between the pouch and the heat-generating element.

***Allowable Subject Matter***

19. Claims 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

20. The following is a statement of reasons for the indication of allowable subject matter: Claims 10 and 11 are allowable over the art of record because the prior art does not teach or suggest that a "pouch body", a "pipe", a "casing", "cooling oil" as a secondary coolant, an "oil supply cap", an "input/output connector" and "heat-generating element". The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render said claims 10 and 11 patentable over art of record.

**Conclusion**

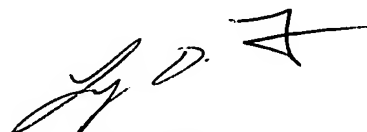
21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ellsworth et al. (US 6,301,097) teaches a pouch body with filler. Newman (US 4,805,767) teaches a pouch with a bent lines to shape the pouch.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJH 

  
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